



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2014-0172; Directorate Identifier 2013-NM-222-AD; Amendment 39-17929; AD 2014-16-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Embraer S.A. Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Embraer S.A. Model ERJ 170 airplanes. This AD was prompted by reports of “BLEED 1(2) LEAK” messages displayed on the engine indication and crew alert system (EICAS), and indirect damage to components of the electrical wiring interconnection system (EWIS) in the engine pylon area. This AD requires inspecting the EWIS components for damage, and repair if necessary. This AD also requires installing pre-cooler deflectors on the left- and right-hand pylons, and applying silicone sealant. We are issuing this AD to prevent indirect damage to EWIS components near the engine bleed air pre-coolers, which could result in a dual engine roll back to idle and consequent dual engine power loss and reduced controllability of the airplane.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0172> or in person at the Docket Management Facility, U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC.

For service information identified in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>. You may view this referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

**FOR FURTHER INFORMATION CONTACT:** Kathrine Rask, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-2180; fax 425-227-1320.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain Embraer S.A. Model ERJ 170 airplanes. The NPRM published in the Federal Register on March 28, 2014 (79 FR 17461).

The Agência Nacional de Aviação Civil (ANAC), which is the aviation authority for Brazil, has issued Brazilian Airworthiness Directive 2013-11-01, effective November 4, 2013 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Embraer S.A. Model ERJ 170 airplanes. The MCAI states:

This [Brazilian] AD results from reports of “BLEED 1(2) LEAK” messages being displayed on the Engine Indication and Crew Alert system (EICAS) panel, and indirect damages to components of the Electrical Wiring Interconnection System (EWIS) on the engine pylon area, zones 419 and 429, adjacent to the exhaust flange of the engine bleed air precooler.

Further investigation has shown that a leakage on the flange of the precooler refrigerating air exhaust duct caused the damage and triggered the message. We are issuing this [Brazilian] AD to prevent EWIS components indirect damage, near to engine bleed air precooler, which could result in a dual engine roll back to idle and the consequent dual engine power loss.

Required actions include inspecting the EWIS components adjacent to the left- and right-hand pre-cooler for damage, and repair if necessary; installing pre-cooler deflectors on the left- and right-hand pylons, and applying silicone sealant. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2014-0172-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (79 FR 17461, March 28, 2014) or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (79 FR 17461, March 28, 2014) for correcting the unsafe condition; and

- Do not add any additional burden upon the public than was already proposed in the NPRM (79 FR 17461, March 28, 2014).

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

### **Costs of Compliance**

We estimate that this AD affects 181 airplanes of U.S. registry.

We also estimate that it takes about 6 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts cost about \$366 per product. Based on these figures, we estimate the cost of the AD on U.S. operators to be \$158,556, or \$876 per product.

We have received no definitive data that would enable us to provide cost estimates for the on-condition actions specified in this AD.

### **Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: "General requirements." Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2014-0172; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

## **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

#### **§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

**2014-16-05 Embraer S.A.:** Amendment 39-17929; Docket No. FAA-2014-0172; Directorate Identifier 2013-NM-222-AD.

#### **(a) Effective Date**

This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

#### **(b) Affected ADs**

None.

#### **(c) Applicability**

This AD applies to Embraer S.A. Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, and -200 STD airplanes; certificated in any category; as identified in EMBRAER Service Bulletin 170-36-0019, dated August 23, 2011.

#### **(d) Subject**

Air Transport Association (ATA) of America Code 36, Pneumatic.

#### **(e) Reason**

This AD was prompted by reports of “BLEED 1(2) LEAK” messages displayed on the engine indication and crew alert system (EICAS), and indirect damage to

components of the electrical wiring interconnection system (EWIS) in the engine pylon area. We are issuing this AD to prevent indirect damage to EWIS components near the engine bleed air pre-coolers, which could result in a dual engine roll back to idle and consequent dual engine power loss and reduced controllability of the airplane.

**(f) Compliance**

Comply with this AD within the compliance times specified, unless already done.

**(g) Required Actions and Compliance Time**

Within 8,000 flight cycles or 12,000 flight hours after the effective date of this AD, whichever occurs later, do the actions specified in paragraphs (g)(1), (g)(2), and (g)(3) of this AD.

(1) Do a general visual inspection of the EWIS components adjacent to the left- and right-hand pre-coolers (zones 419 and 429 respectively) for damage, in accordance with the instructions specified in Subject 20-62-00, “Requirements for EWIS Components Inspections and Checks — Maintenance Practices,” of Chapter 20, “Standard Practices-Airframe,” of EMBRAER 170/175/190/195 Standard Wiring Practices Manual SWPM-1590, Revision 25, dated June 3, 2013. Repair all damage before further flight, in accordance with the instructions specified in Subject 20-62-00, “Requirements for EWIS Components Inspections and Checks — Maintenance Practices,” of Chapter 20, “Standard Practices-Airframe,” of EMBRAER 170/175/190/195 Standard Wiring Practices Manual SWPM-1590, Revision 25, dated June 3, 2013.

(2) Install a new deflector on the left- and right-hand pre-cooler exhaust flange, in accordance with Part I or Part III, as applicable, of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0019, dated August 23, 2011.

(3) Apply high temp silicone sealant to the left- and right-hand pre-cooler, in accordance with Part II or IV, as applicable, of the Accomplishment Instructions of EMBRAER Service Bulletin 170-36-0019, dated August 23, 2011.

**(h) Credit for Previous Actions**

This paragraph provides credit for actions required by paragraph (g)(1) of this AD, if those actions were performed before the effective date of this AD using the service information specified in paragraph (h)(1) or (h)(2) of this AD.

(1) Subject 20-62-00, “Requirements for EWIS Components Inspections and Checks — Maintenance Practices,” of Chapter 20, “Standard Practices-Airframe,” of EMBRAER 170/175/190/195 Standard Wiring Practices Manual SWPM-1590, Revision 23, dated October 8, 2012, which is not incorporated by reference in this AD.

(2) Subject 20-62-00, “Requirements for EWIS Components Inspections and Checks — Maintenance Practices,” of Chapter 20, “Standard Practices-Airframe,” of EMBRAER 170/175/190/195 Standard Wiring Practices Manual SWPM-1590, Revision 24, dated February 18, 2013, which is not incorporated by reference in this AD.

**(i) Other FAA AD Provisions**

The following provisions also apply to this AD:

**(1) Alternative Methods of Compliance (AMOCs):** The Manager, International Branch, ANM-116, Transport Airplane Directorate, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the International Branch, send it to ATTN: Kathrine Rask, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-2180; fax 425-227-1320. Information may be emailed to: 9-ANM-116-AMOC-REQUESTS@faa.gov. Before using any approved



AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

**(2) Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they were approved by the State of Design Authority (or its delegated agent, or the DAH with a State of Design Authority's design organization approval, as applicable). You are required to ensure the product is airworthy before it is returned to service.

**(j) Related Information**

(1) For more information about this AD, contact Kathrine Rask, Aerospace Engineer, International Branch, ANM-116, Transport Airplane Directorate, FAA, 1601 Lind Avenue SW., Renton, WA 98057-3356; telephone 425-227-2180; fax 425-227-1320.

(2) Service information identified in this AD that is not incorporated by reference may be viewed at the addresses specified in paragraphs (k)(3) and (k)(4) of this AD.

**(k) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) EMBRAER Service Bulletin 170-36-0019, dated August 23, 2011.

(ii) Subject 20-62-00, "Requirements for EWIS Components Inspections and Checks — Maintenance Practices" of Chapter 20, "Standard Practices-Airframe," of EMBRAER 170/175/190/195 Standard Wiring Practices Manual SWPM-1590, Revision

25, dated June 3, 2013. (Page 1 of Subject 20-62-00 is dated February 18, 2013; page 2 is dated June 2, 2011; and page 3/4 is dated October 6, 2011. The page date shown on the List of Effective Pages for page 4 of Subject 20-62-00 is March 12, 2009; the correct date for page 4 (page “3/4”) of this subject is October 6, 2011.)

(3) For service information identified in this AD, contact Embraer S.A., Technical Publications Section (PC 060), Av. Brigadeiro Faria Lima, 2170 - Putim - 12227-901 São Jose dos Campos - SP – BRASIL; telephone +55 12 3927-5852 or +55 12 3309-0732; fax +55 12 3927-7546; email [distrib@embraer.com.br](mailto:distrib@embraer.com.br); Internet <http://www.flyembraer.com>.

(4) You may view this service information at FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to:

<http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

Issued in Renton, Washington, on July 14, 2014.

Michael Kaszycki,  
Acting Manager,  
Transport Airplane Directorate,  
Aircraft Certification Service.

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